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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/537,025	03/28/2000	Atsushi Okuyama	1232-4621	5073

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EXAMINER
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BRIER, JEFFERY A

ART UNIT	PAPER NUMBER
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2672

14

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/537,025

Applicant(s)

OKUYAMA ET AL.

Examiner

Jeffery A. Brier

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4,6-14 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/31/03 has been entered. Claim 10 has been amended by this submission.

### *Drawings*

2. Figures 38-42 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because figure 55 does not show embodiment 3 as alleged on page 45 line 15, since figure 55 illustrates red added to blue. Embodiment 3 adds blue to green as described on page 24 lines 13-18, thus, for figure 55 to illustrate embodiment 3 it must show blue being added to green rather than red added to blue. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification is objected to because it does not provide antecedent basis in the detailed description for the claimed feature of modifying a "control pattern of the display element". The Summary of the Invention mentions this at page 5 line 22 and page 6 line 5 but the detailed specification fails to describe this feature of the claimed invention. The detailed specification at page 36 lines 2-7, figures 43 and 44, describes an attenuated red (or green) signal added to the blue signal and at page 41 line 21 to page 42 line 7, figures 52 and 53, describes an attenuated difference signal is added as color correction to the blue signal only when the red (or green) signal is larger than the blue signal. Adding an attenuated red signal to the blue signal or adding an attenuated green signal to the blue signal or adding an attenuated difference signal to the blue signal does modify a control pattern of the display element because the display element receive will receive differently modulated red, green and blue light beams, however, the specification must provide clear antecedent basis for claimed limitations.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 10 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamada et al., Japanese Publication No. 07-072450, published 03/17/1995. This reference was cited by applicant on page 4 line 7.

Claim 10:

In paragraphs 0037 and 0038 this reference teaches to select the high color mode when the kinds of presentation requires high color mode and to select high luminance mode when the kinds of presentation requires high luminance mode, thus, this reference teaches the display element will be controlled in a color reproduction range narrower (less accurate) in high luminance mode than color reproduction range used when high color mode is used (more accurate color reproduction).

Claim 20:

Projection displays use planar screens.

Art Unit: 2672

6. The indicated allowability of claims 1-4, 6-9, 11-14 and 16-19 is withdrawn in view of the newly discovered reference(s) to Kunzman, U.S. Patent No. 6,392,717.

Rejections based on the newly cited reference follow.

7. Claims 1-4, 6-14 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kunzman, U.S. Patent No. 6,392,717, describes a system that senses the purity of the colors output onto the display element by the red, green and blue filters. When the purity is not acceptable the signal that controls a spatial light modulator is modulated to correct for errors.

A detailed analysis of the claims follows.

Claim 1:

Kunzman teaches a display apparatus (*figure 3*) for making a plurality of light beams (*red, green, blue and clear*) of mutually different colors incident to at least one display element (*of the spatial light modulator*) and modulating the beams of the respective colors by the at least one display element to form images of the respective colors, wherein purity of at least one color out of said colors is varied by moving a filter into or out of an optical path of said at least one color (*the red, green and blue filters move through the optical path and the system compares the white light produced by the red, green and blue filters with the white light produced by the clear filter*) and wherein a control pattern of the display element is modified according to variation in the purity of the at least one color (*if the color temperature between the two are different the control*

Art Unit: 2672

*pattern of the spatial light modulator is altered, abstract lines 3-9, column 2 lines 15-30, column 3 lines 19-26 and column 11 lines 14-23).*

Claim 2:

Kunzman teaches a display apparatus according to Claim 1, wherein when said purity is relatively low, an image of said at least one color is formed by using the light beam of said at least one color (*such as red*) and the light beam of the color different (*such as white*) from said at least one color (*the red filter and the white filter are different*).

Claim 3:

Kunzman teaches a display apparatus according to Claim 2, wherein said at least one color is red or green (*red and green are each one of the filters that are moved into and out of the path*).

Claim 4:

Kunzman teaches a display apparatus according to Claim 2, wherein said at least one color is red or green and said color different of said at least one color is blue (*column 4 lines 16 and the equation at lines 35-39 of column 4 teaches modifying the red to  $R'$  where  $R'$  is now a function of red, green, and blue since  $W$  is a function of red, green and blue*).

Art Unit: 2672

Claim 6:

Kunzman teaches a display apparatus according to Claim 1, comprising detection means for detecting a position of said filter (22), wherein said control pattern is modified, based on a signal from the detection means (*the control pattern is modified based upon the position of the filter and the sensed output of the filter*).

Claim 7:

Kunzman teaches a display apparatus according to Claim 1, wherein when said filter is off the optical path, an image of said at least one color (*red for example*) is formed by using the light beam of said at least one color (*red*) and the light beam of the color different from said at least one color (*white, when the red filter is moved and the white filter is in position the light beam at the display element is formed by the red and white beams*).

Claim 8:

Kunzman teaches a display apparatus according to Claim 7, wherein said at least one color is red or green and said color different from said at least one color is blue (see *claim 4, column 4 line 16 and the equation at lines 35-39 of column 4 teaches modifying the red to  $R'$  where  $R'$  is now a function of red, green, and blue since  $W$  is a function of red, green and blue*).



Art Unit: 2672

Claim 9:

Kunzman teaches a display apparatus according to Claim 1, wherein said control pattern is modified so that a color reproduction range in the case of the purity of said color being relatively low becomes narrower (*see the equation at column 43 line 35,  $W$  would be less than  $C_{max}$  because  $W$  is a minimum RGB value and  $C_{max}$  is a maximum, thus  $R'$  is less than  $R$* ) than a color reproduction range in the case of the purity of said color being relatively high (*a system with high purity would not need this error compensation*).

Claim 10:

This independent claim is similar to claim 9 and is rejected for the reasons given for claim 9.

Claims 11-14 and 16-20:

Projection displays use planar screens and column 1 lines 44-47 and column 11 lines 24-30.

Art Unit: 2672

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stanton, U.S. Patent No. 5,428,408, describes a system that senses the purity of the colors output onto the display element, light valve 62, by the red, green and blue light sources. When the purity is not acceptable the power applied to the green and/or blue light sources is altered.

Kunzman, U.S. Patent No. 6,256,425, Kunzman et al. , U.S. Patent No. 6,054,832, and Pettit et al., U.S. Patent No. 6,108,053, are all similar to Kunzman, U.S. Patent No. 6,392,717.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A. Brier whose telephone number is (703) 305-4723. The examiner can normally be reached on M-F from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (703) 305-4713).

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

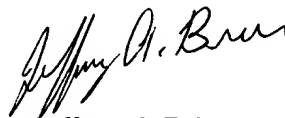
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

A handwritten signature in black ink, appearing to read "Jeffery A. Brier". The signature is written in a cursive, flowing style.

Jeffery A Brier  
Primary Examiner  
Art Unit 2672